

Título: HUMAN WELL-BEING IN A CHANGING MARINE SOCIAL-ECOLOGICAL SYSTEM: A PARTICIPATORY AND INTERDISCIPLINARY ANALYSIS USING THE ECOSYSTEM SERVICES CONCEPT

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Resumen: Marine protected areas (MPAs) are conservation initiatives whose primary goal is to safeguard marine biodiversity. But with the creation of regulations and restrictions, MPAs not only impact biodiversity but also affect coastal communities whose livelihoods depend on locally provided ecosystem services. In fact, MPAs can be considered conservation interventions in complex social-ecological systems because they affect intricate interactions between biodiversity, ecosystem services, and people. This means that it's important to understand not only the ecological outcomes of MPAs but also their social dimensions. Yet the social dimensions of conservation, and specifically the ways MPAs affect positively and negatively human well-being, are poorly known. This is a knowledge gap worth exploring because MPAs are increasingly promoted as marine management tools that safeguard both biodiversity and human well-being. As a result, their number and extent

are growing worldwide.

So, how can human well-being be improved through multiple-use MPAs? This is the guiding question of this thesis. Here, I explore how people depend, relate to, perceive, and envisage Litoral Norte, a multiple-use MPA located in northern Portugal. I investigate the ways Litoral Norte support the subjective well-being of nearby residents and visitors (chapter 2). I examine local stakeholders' perceptions of Litoral Norte governance and management (chapter 3). And I articulate the aspirations and positive future visions that local stakeholders have for Litoral Norte (chapter 4). Overall, I try to improve the understanding of how the outcomes of an MPA affect multiple domains of human well-being.

I report three main findings in this thesis. First, the interactions between cultural practices and Litoral Norte sites support different cultural dimensions of human well-being, with significant differences in levels of well-being explained by socio-economic factors and environmental behaviour. Subjective well-being derived from relating to, interacting with, and experiencing Litoral Norte sites can be grouped into four cultural dimensions of well-being: engagement with nature & health, sense of place, solitude in nature, and spirituality. These cultural dimensions of well-being are not mutually exclusive and may reflect intertwined elements of human well-being. Second, social and ecological outcomes of marine protected areas can be perceived differently by distinct stakeholder groups. While Litoral Norte MPA managers tended to perceive conservation outcomes positively, fishers, fish vendors, maritime tourism operators, and scientists, generally had more negative perceptions. This mis-match of perceptions by different stakeholder groups about Litoral Norte is a concern for the future of the MPA. This is because negative perceptions of conservation outcomes are often associated with a lack of support and disapproval of conservation initiatives by local stakeholders.

Third, articulating the perceptions of local users, MPA managers, and scientists into concrete conservation actions can not only increase overall support for marine protected areas but also help improve both biodiversity and human well-being. Articulating perceptions into conservation actions requires participatory processes, which enable social learning, communication among stakeholders, and articulation of different worldviews, perspectives, knowledge types, values, and aspirations. Including stakeholders' input into democratically deliberated conservation decisions can increase legitimacy, compliance, and responsibility of stakeholders towards the decisions made. This is because the 'ownership' of decisions will be of the involved stakeholders. Democratically deliberated conservation decisions involving diverse stakeholder groups are also better prepared to deal with the often-harsh trade-offs between marine conservation and human well-being. A just and equitable distribution of costs and benefits inherent to those trade-offs contributes to more balanced decisions for biodiversity and people.

The participation of local stakeholders in conservation decisions is crucial for conservation success. This is an often-repeated message. And it is easier said than done. But efforts to improve communication and mutual understanding between MPA managers, fishers, fish vendors, tourism operators, scientists, and other relevant stakeholders, can yield positive outcomes for conservation initiatives whose goal is to safeguard both biodiversity and human well-being.